

REMARKS

In the March 20, 2007 Office Action, claims 11-16, 24, and 25 were rejected. This Response amends claims 11, 14-16, 24, and 25 to clarify certain aspects of the recited subject matter. After entry of the foregoing amendments, claims 11-16, 24, and 25 (8 total claims; 3 independent claims) remain pending in the application. Reconsideration of the application is respectfully requested in view of the above amendments and the following remarks.

Claims 11-16, 24, and 25 stand rejected under 35 U.S.C. §102(e) as being anticipated by Kakizawa, USPN 6,580,556 (hereinafter “Kakizawa”). The Office has maintained this rejection and has again stated that Kakizawa teaches each and every recited limitation. Applicant respectfully traverses this rejection.

As previously explained by Applicant, Kakizawa generally discloses a system for viewing a stereoscopic image pair through a plate having a single aperture, as plainly shown in FIG. 1 of Kakizawa. FIG. 2 in Kakizawa merely depicts a videoconferencing version of the basic system, where each participant views his respective stereoscopic image pair through a respective plate having a single aperture – two of the basic systems depicted in FIG. 1 of Kakizawa are utilized.

Referring to FIG. 1 of Kakizawa, the observer concurrently views two images 12a and 12b through a single aperture 16. Notably, the observer’s left eye (depicted at the bottom of the figure and identified by the letter B) focuses on the left image 12b, while the observer’s right eye (depicted at the bottom of the figure and identified by the letter A) focuses on the right image 12a. As shown in the figure, the observer uses cross-eyed vision such that the line of sight of the right eye crosses the line of sight of the left eye through the aperture 16. Importantly, the entire right image is viewable through the aperture 16, and the entire left image is viewable through the aperture 16. Indeed, FIG. 1 of Kakizawa includes sight lines from the eyes to the left/right images that explicitly illustrate that the aperture 16 is large enough to allow the left/right images to be completely seen through the aperture 16. In this regard, Kakizawa specifies that “the viewer can obtain a full, undistorted image of the stereoscopic composite that results from the left and right image pairs” [Kakizawa at Column 2, Lines 4-6].

For ease of discussion, a brief summary of an embodiment of Applicant’s subject matter will be provided here, with primary reference to Applicant’s FIG. 3. This embodiment of Applicant’s display system employs left and right viewing modules utilized for binocular vision

by the viewer. Consequently, the system utilizes a left eyepiece 302L for the observer's left eye and a right eyepiece 302R for the observer's right eye. This embodiment of the system has separate left and right video displays (306L and 306R, respectively), where the observer views the left video display 306L using his left eye and left eyepiece 302L, and where the observer views the right video display 306R using his right eye and right eyepiece 302R.

The left viewing module includes a physical aperture 304L, which is located between the left eyepiece 302L and the left video display 306L as shown in FIG. 3. Likewise, the right viewing module includes a physical aperture 304R, which is located between the right eyepiece 302R and the right video display 306R. Notably, the left aperture 304L conceals, obscures, or blocks some or all of the periphery (perimeter) of left video display 306L, and the right aperture 304R conceals, obscures, or blocks some or all of the periphery (perimeter) of right video display 306R. This feature is described in Applicant's specification at, for example, paragraphs 0020 to 0022.

This embodiment of Applicant's system uses the apertures to obscure the perimeter areas of the video displays to eliminate frame violation effects, which are stereoscopic display artifacts that make a displayed background object (or portions thereof) appear to be in front of a displayed foreground object. Frame violations in this context were discussed at length in Applicant's previous responses.

Applicant's claims have been amended to clarify certain aspects of the recited subject matter. For example, independent claim 11 has been amended to specify that the method relies upon left and right video signals, left and right stereoscopic images, and left and right apertures. The apertures are utilized in the step of obscuring at least a portion of the left/right stereoscopic images from the observer to prevent frame violation effects. Independent claims 24 and 25 have been amended in a similar manner. In addition, dependent claims 14-16 have been amended for consistency with amended claim 11. Applicant submits that Kakizawa does not teach each and every limitation of these claims.

As an initial matter, the Response to Arguments section of the Office Action addressed Applicant's argument regarding Kakizawa's shortcomings with respect to the teaching of frame violations. In the Response to Arguments section the Office again concludes that Kakizawa prevents frame violations as recited by Applicant. Applicant respectfully disagrees with this conclusion, particularly considering the fact that Kakizawa is completely silent with respect to

the issue of frame violations. Nonetheless, in the spirit of expedited prosecution, Applicant has again amended the claims in a manner that addresses the shortcomings of Kakizawa.

Regarding independent claims 11, 24, and 25, Kakizawa does not teach or suggest a method of producing a stereoscopic image on a stereoscopic display, where the method involves the display of left and right images on respective display elements and the blocking/obscuring of at least a portion of both left and right display elements (e.g., the perimeters) using left and right apertures located between the left/right eyepieces and the left/right display elements. Rather, Kakizawa employs a plate 14 that contains only one aperture 16; this aperture 16 is utilized to create the stereoscopic image for the viewer. Moreover, Kakizawa stresses that entire, full, and undistorted images are viewed through a single aperture 16. In contrast, claims 11, 24, and 25 recite the step of obscuring portions of the left/right images in a manner that prevents frame violations.

Moreover, the aperture in the Kakizawa system is not located between an eyepiece and a display element, as required by claims 11, 24, and 25. As depicted in Kakizawa's FIG. 1 and FIG. 2, and as explained in Kakizawa's specification, the Kakizawa system employs the single aperture 16 itself as a viewing element and the Kakizawa system does not include a separate eyepiece per se. Notably, the Kakizawa aperture 16 is not located between an eyepiece and the display.

For at least the above reasons, Kakizawa fails to teach each and every element of independent claims 11, 24, and 25. For at least the same reasons, Kakizawa fails to teach each and every element of claims 12-16 (which variously depend from claim 11). Accordingly, Kakizawa does not anticipate any of claims 11-16, 24, or 25, and Applicant respectfully requests the withdrawal of the §102 rejection of those claims.

In conclusion, for the reasons given above, all claims now presently in the application are believed allowable and such allowance is respectfully requested. Should the Examiner have any questions or wish to further discuss this application, Applicant requests that the Examiner contact the undersigned attorney at (480) 385-5060.

If for some reason Applicant has not requested a sufficient extension and/or has not paid a sufficient fee for this response and/or for the extension necessary to prevent abandonment on this application, please consider this as a request for an extension for the required time period and/or authorization to charge Deposit Account No. 50-2091 for any fee which may be due.

Respectfully submitted,

INGRASSIA FISHER & LORENZ

Dated: June 11, 2007

By: /MARK M. TAKAHASHI/  
Mark M. Takahashi  
Reg. No. 38,631  
(480) 385-5060